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(71) Applicant: **Lolli, Carla P.**
J. Van Ryswycklaan 76
B-2018 Antwerpen(BE)

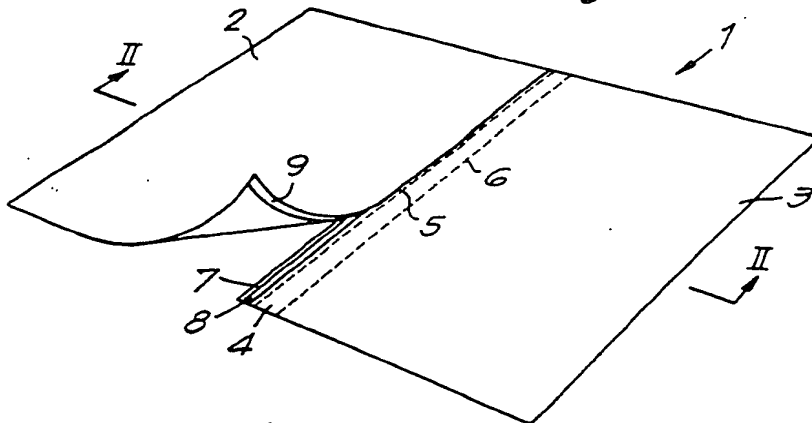
(72) Inventor: **Lolli, Carla P.**
J. Van Ryswycklaan 76
B-2018 Antwerpen(BE)

(74) Representative: **Donné, Eddy**
Bureau M.F.J. Bockstael nv Arenbergstraat
13
B-2000 Antwerpen(BE)

(54) **Binding element with removable flyleaf.**

(57) Binding element with removable flyleaf, characterised in that it principally consists of a back sheet (3) that is extended by the actual spine (4) of the binding element; a part (7) of this back sheet (3) extending past this spine (4); and a removable flyleaf (2); and between the aforementioned part (7) and the adjacent part of the removable flyleaf (2) adhesive means (8, 9) which, on the one hand, are securely connected to either the aforementioned part (7), or the removable flyleaf (2), and which, on the other hand, are detachably connected to, respectively either, the removable flyleaf (2), or the part (7).

Fig. 1



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Binding element with removable flyleaf.

This invention relates to a binding element, respectively a binding file, with removable flyleaf, for example one which can be torn out, namely a binding element or binding file for binding loose documents in a file.

More especially the present invention relates to a binding element or binding file which permits that the front sheet of the bound bundle of documents can be freely determined, independently of the binding element or binding file since this front sheet, together with the documents to be bound is attached in the binding element, respectively binding file.

A binding element or binding file is therefore obtained which allows a completely free choice of the front sheet of the binding, namely a transparent or opaque front sheet whether or not printed, that can be chosen freely during the collecting and binding of the loose documents.

According to another characteristic of the invention a binding element or binding file is formed which facilitates the binding together and binding of loose documents through the fact that preferably a stiff spine is provided.

Indeed in principle use can also be made of an element with supple spine as binding element or binding file according to the invention.

Although a binding element or binding file according to the invention is principally intended for joining together a certain amount of loose sheets, in a particular embodiment it can also be applied as simple slipfile in order to install one or more documents therein.

The binding element according to the invention can be applied in combination with either a universal binding element as described in the Belgian patent no. 8801155 of Applicant, or a universal binding element that is derived here from.

Indeed, in combination with a binding element or binding file according to the invention preferably a universal binding element will be applied according to the aforementioned application whereby this universal binding element is principally formed by a first part that is intended for the formation of a complete or partial front sheet; a second part that is intended for the formation of a back sheet; and a third part that is intended for the formation of a spine which includes adhesive means, whereby the latter are formed of a glue meltable under the influence of heat and which, with heating and then cooling, can provide for an adhesive connection to both the inside and the outside of the formed spine.

Such universal binding element can as such, with a suitable front sheet, be placed in the binding

element according to the invention in order then through heating and cooling to achieve that the universal binding element is glued together with a suitable front sheet in the binding element according to the invention after which the flyleaf of the binding element according to the invention can be removed and a beautifully bound unit is therefore obtained of which the front sheet is formed by the front sheet of the binding with the universal aforementioned binding element.

In a particular embodiment the universal binding element that is bound together with a suitable front sheet in the binding element according to the invention will also be provided with a removable flyleaf on one or both sides.

A binding element or binding file according to the invention principally consists of a back sheet that is extended by the actual spine of the binding element; a part extending past this spine; and a removable flyleaf; and between the aforementioned part and the adjacent part of the removable flyleaf adhesive means which are securely connected to either the aforementioned part, or the removable flyleaf, and which are detachably connected to, respectively, either the removable flyleaf, or the aforementioned part.

According to another embodiment a binding element or binding file according to the invention consists of a back sheet in whatever material; a front sheet or flyleaf in a suitable type of paper and a spine which at least consists of a layer of glue to which the sheets are attached, whereby the flyleaf is additionally connected by means of a releasable layer to a layer of pressure sensitive glue which itself is connected to a strip which on its second free edge is connected in relation to the aforementioned adhesive spine and whereby the flyleaf shows a perforation line which is situated between the direct attachment of the flyleaf to the aforementioned strip, on the one hand, and the releasable attachment of the flyleaf on the aforementioned strip, on the other hand.

In order to show better the characteristics according to the present invention, some preferred embodiments are described hereafter, as examples without any restrictive character, with reference to the enclosed drawings, in which:

figure 1 shows a perspective view of a binding element or binding file with removable flyleaf according to the invention;

figure 2 shows a section according to line II-II in figure 1;

figure 3 shows on larger scale the part that is indicated by F3 in figure 2;

figure 4 shows a section of the binding ele-

ment according to figure 1 in condition for use;

figure 5 shows a variant of figure 4;

figure 6 shows an application of a binding element according to figure 1 in combination with a known universal binding element;

figures 7 and 8 show respectively an intermediate phase and the end phase of a binding according to figure 6;

figures 9, 10 and 11 show three phases, with figure 11 as end phase, of a binding which forms a variant of this according to figures 6 through 8;

figure 12 shows in perspective a variant of a binding file according to the invention, more especially of a binding file with a flyleaf which can be torn out;

figure 13 shows a schematic section according to line XIII-XIII in figure 12;

figure 14 shows on larger scale the part that is indicated by F14 in figure 13;

figure 15 shows a cross-section of a binding file according to the invention after it is folded into a U-shape;

figure 16 shows in cross-section a loose joining together of a binding according to the invention;

figure 17 shows a view similar to that from figure 16, but after the actual binding is performed;

figure 18 shows a view similar to that from figure 17, but after the flyleaf is torn out;

figures 19 and 20 show sections similar to those from figure 14, but for embodiment variants.

In figure 1 a binding element or binding file 1 is shown that principally consists of a flyleaf 2 and a back sheet 3 that in this embodiment at the same time forms the spine 4 and that for this purpose is provided with longitudinal impressions, respectively fold lines, 5, 6 at well defined distances in relation to the actual spine 4.

The part 7 of the back sheet 3 that is located past the actual spine 4 is provided on the inside with a layer of glue 8 to which the flyleaf 2 is attached by means of a detachable connection such as a layer of weak glue 9 or similar, all of which such that the flyleaf together with the layer of glue 9 can be removed in a simple manner from the part 7 of the back sheet 3 after which the layer of glue 8 comes free in order to be able to be attached to an underlying document.

There where the flyleaf 2, that only serves for holding the bundle of documents to bound during the binding, can produced in a material of lesser quality, for example paper, the back sheet 3 will produced in a better quality, for example white thin cardboard, as shown in figure 4.

Nothing however prevents the binding element according to the invention from being produced by starting with a back sheet whether or not transparent that is glued to a U-shaped element 10 that at

the same time forms the spine 4 of the binding element but whereby in this case the spine 4 is produced in a supple material.

Such binding element or binding file according to the invention will preferably be applied with a universal binding element as described in the Belgian patent no. 8801155 that is in principle formed by a front sheet 11 that possibly only shows a limited width which for example is equal to the width of the part 7 of the binding element; a back sheet 12 and a spine 13 formed by adhesive means which consist of a glue meltable under the influence of heat which with heating and then cooling can provide for an adhesive connection both to the inside and to the outside.

According to the present invention a bundle of documents to be bound will be installed in a universal binding element 11, 12, 13 as shown in figure 6 whereby, either the aforementioned front sheet 11, if this is as large or almost as large as the size of the documents 14, will form the actual front sheet of the binding, or if this front sheet 11 only has a width which is equal to or almost equal to the width of the part 7, as shown in figures 6 through 8, the front sheet will be formed by the first sheet 15 of the documents to be bound.

It is clear that because of this a very large number of possibilities exist for producing the front sheet of a binding.

Indeed such front sheet according to the invention can be produced and printed in this manner without being dependent upon the binding.

As is shown in figure 6 it is sufficient to place in a binding element 11, 12, 13 a number of documents 14 to be bound whereby the first document 15 will be of a suitable material and finished in a suitable manner and printed, after which around the unit formed by the parts 11 through 15 a binding element 1 according to the invention will be installed as shown in figure 7.

In this position the layer of glue 13 will be heated in a suitable known manner in order to obtain that the documents 14 and the first document 15 are secured in the layer of glue 13, on the one hand, and the spine 4 of the binding element 1 is secured with the layer of glue 13, on the other hand.

When the thus formed binding is cooled off it will subsequently be sufficient to remove the flyleaf 2 by simply pulling this flyleaf away from between the front sheet 11 and the layer of glue 8 in order finally to glue the part 7 of the back sheet 3, by means of the layer of glue 8 on the front sheet 11 of the universal binding element 11, 12, 13.

The removal of the flyleaf 2 is hereby possible because the adhesive force of the layer of glue 9 is very small compared to that of the layer of glue 8.

A very effective and beautifully produced bind-

ing is thus obtained which is neither limited to a specific manner of production, nor to a choice of material or general presentation of the ultimate front sheet thereof.

In figures 9 through 11 a variant of the embodiment according to figures 6 through 8 is shown.

In these figures 9 through 11 an application is shown whereby the binding element according to the invention, as shown in figures 1 through 5, is applied with a universal binding element that in this case is formed by a front sheet and a back sheet, each normally with small height, respectively 11 and 12, and attached to the inside of this front sheet, respectively back sheet, a removable flyleaf, respectively 16 and 17.

As in the preceding example the front sheet 11 and the back sheet 12 are connected to each other by means of a layer of glue 13 of which it is the intention, still as above, on the one hand, to attach the documents 14 in relation to the sheets 11 and 12 and, on the other hand, to form an attachment with the spine 4 of the binding element according to the invention.

The attachment of the flyleaves 16 and 17 to the front sheet 11, respectively back sheet 12 is effected in this case by means of a layer of glue, respectively 18, 19, on the one hand, and a layer of weak glue 20, 21, on the other hand.

After the various elements are joined together as shown in figure 9 the layer of glue 13 will be heated and subsequently cooled off so that, on the one hand, the binding of the documents 14 is obtained and, on the other hand, the attachment of the universal binding element 11, 12, 16, 17 to the spine 4 of the binding element according to the invention.

Before, during or after this binding the desired front sheet 15 that is of whatever form, in whatever material and treated or printed in whatever manner will be provided between the flyleaves, respectively 2, of the binding element according to the invention and 16 of the universal binding element 11, 12, 16, 17.

In both the first and the second embodiment the flyleaf 2, respectively the flyleaves 16 and 17 avoid that the documents 14, or the front sheet 15 could be damaged in any manner at all during the binding.

After the documents 14 are bound and the front sheet 15 is installed, see figure 10, the flyleaf 2 and should the case arise one or both flyleaves 16, 17 will be removed by simply pulling away these flyleaves which is possible through the presence of a layer of weak glue 8, respectively 20 and 21 after which the unit can be pressed together so that the aforementioned part 7 of the back sheet 3 is glued against the front sheet 15, on the one hand, and the front wall, respectively back wall 11,

12 against the bundle of documents 14, on the other hand.

In the embodiments shown the thickness of the total binding file with bound documents is drawn differently in the various phases for the sake of clarity. It is clear that in reality this thickness remains almost equal since the removed flyleaf(ves) only have a very small thickness.

In figure 12 a binding file 1 is shown which principally consists of a flyleaf 2 which can be torn out; a back sheet 3 and a spine 4.

There where the back sheet 3 can be of whatever, supple or stiff, transparent or opaque material, the flyleaf 2 which can be torn out will be formed of a thin type of paper and the spine 4 will in this embodiment consist of a glue meltable under the influence of heat, to which on one side and on the other side, the flyleaf 2 and the back sheet 3 are glued to the free edges.

The spine 4 shows parallel notches 5 and 6 which function as folding lines for the formation of a U-shaped binding file as shown in figure 4 and which can be provided either on the inside or on the outside of the spine 4. In the extension of the back sheet 3 on the adhesive spine 4, more especially on the other side of the flyleaf 2, a strip of material 7, for example a strip of cardboard, is glued, whereby past the adhesive part of the spine 4 but on the same side, a glue 8 is provided on this strip 7 which under pressure can stick together with another part.

A covering or releasable layer 9 which is insensitive or almost insensitive to the adhesive force of the pressure sensitive glue 8 is provided between the flyleaf 2 and the pressure sensitive glue 8.

Finally a perforation 22 is provided in the flyleaf 2, between the layer 9 and the spine 4, over the entire height of the file.

The perforation line 22 will preferably be torn or cut over a small distance at each extremity of the flyleaf 2, for example over a distance of 10 to 20 mm.

The application of such binding file according to the invention is very simple and very effective.

It is sufficient to fold the binding file into the shape as shown in figure 15 in order, on the one hand, to install in it an amount of documents 14 to be bound and, on the other hand, a suitable first sheet 15 that can formed of the same or another material than the sheets 14, that can be pre-printed or otherwise, transparent or not, in other words that can be formed by whatever desired front sheet that is placed against the aforementioned flyleaf 2.

In this case the binding file according to the invention is also placed in a suitable reinforcing file or ornamental file 23 after which the spine 4 is subjected to a suitable heating, all of which such that the documents 14 and the front sheet 15 are

strongly glued into the adhesive spine 4, on the one hand, and the binding file according to the invention in its turn is strongly glued into the reinforcing file, ornamental file or similar 23.

After the unit is pressed together and cooled in a suitable manner it will be sufficient to tear out the flyleaf, which is possible, on the one hand, because the layer 9 easily comes free from the layer of pressure sensitive glue 8, and on the other hand, the presence of the perforations 22 through which the flyleaf can easily be torn, which is further facilitated by the aforementioned prior tearing or cutting since because of this the tearing need not start at the extremity of the flyleaf.

Subsequently a pressure will be exerted on the binding at the location of the pressure sensitive glue 8 in order to obtain a suitable connection between the strip 7 and the front sheet 15 that is additionally attached in this manner.

It is clear that a file is thus obtained which permits any front-sheet 15 to be chosen and to be bound and whereby the removal of the flyleaf 2 is effected in a very effective manner, also through the presence of the perforation 22 which allows a clean tearing of this flyleaf and whereby after binding the tear line is no longer visible.

In figures 19 and 20 variants of the aforementioned embodiment are shown which principally differ from the latter embodiment because the back sheet 3 and the strip 7 form a unit as it were together with a part 4A situated behind the spine 4.

In the embodiment from figure 19 the flyleaf 2 is permanently connected to the layer of glue 8 past the perforation 22, while this flyleaf 2 is connected to the layer of glue 8, before the perforation 22, by means of the aforementioned layer 9.

In the embodiment from figure 20 the flyleaf 2 is connected in the same manner as is the case in figure 14 to respectively the adhesive spine 4 and, by means of the layer 9, to the layer of glue 8.

Folding lines can be impressed and/or notches provided both in the spine 4A and in the spine 4.

The application of a binding file according to figures 19 and 20 is identical to that as described above with reference to figures 15 through 18.

The present invention is in no way restricted to the embodiments described as examples and shown in the drawings, but a binding element, respectively binding file, according to the invention can be implemented in all kinds of forms and dimensions without departing from the scope of the present invention.

Claims

1.- Binding element with removable flyleaf, characterised in that it principally consists of a

back sheet (3) that is extended by the actual spine (4) of the binding element; a part (7) of this back sheet (3) extending past this spine (4); and a removable flyleaf (2); and between the aforementioned part (7) and the adjacent part of the removable flyleaf (2) adhesive means (8, 9) which, on the one hand, are securely connected to either the aforementioned part (7), or the removable flyleaf (2), and which, on the other hand, are detachably connected to, respectively either, the removable flyleaf (2), or the part (7).

2.- Binding element according to claim 1, characterised in that it principally consists of a back sheet (3) in whatever material; a front sheet or flyleaf (2) in a suitable type of paper and a spine (4) which at least consists of a layer of glue to which the sheets (3) and (2) are attached, whereby the flyleaf (2) is additionally connected by means of a releasable layer (9) to a layer of pressure sensitive glue (8) which itself is connected to a strip (7) which on its second free edge is connected in relation to the aforementioned adhesive spine (4) and whereby the flyleaf (2) shows a perforation line which is situated between the direct attachment of the flyleaf (2) to the aforementioned strip (7), on the one hand, and the releasable attachment (8-9) of the flyleaf (2), on the other hand.

3.- Binding element according to claim 1 or 2, characterised in that the spine (4) (4A) is bordered by impressions or folding lines (5, 6).

4.- Binding element according to claim 1 or 2, characterised in that the adhesive means (8, 9) are formed by a layer of strong glue (8) against the aforementioned part (7) and a layer of weak glue (9) against the flyleaf (2).

5.- Binding file according to claim 2, characterised in that the spine of the file is formed by only the layer of glue (4).

6.- Binding file according to claim 2, characterised in that the spine of the file is formed at the same time by the layer of glue (4) and a spine part (4A) that forms one unit with, on the one hand, the back sheet (3) and, on the other hand, the strip (7).

7.- Binding file according to one of the preceding claims, characterised in that the sheets (2) and (3) are attached to the side edges of the spine (4) and this to sides lying opposite each other.

8.- Binding file according to one of the preceding claims, characterised in that the sheets (2) and (3), are respectively attached to the strip (7) and to the layer of glue (4).

9.- Binding file according to one of the preceding claims, characterised in that the aforementioned strip (7) is attached to the adhesive spine (4) to the same side to which the back sheet (3) is attached.

10.- Binding file according to one of the pre-

ceding claims, characterised in that the perforation line (22) is torn or cut over a small distance at each extremity of the flyleaf.

11.- Binding file according to one of the preceding claims, characterised in that the back sheet (3) with spine (4) and part (7) is implemented from thin cardboard.

12.- Binding file according to one of the preceding claims, characterised in that the spine is implemented in a supple material.

13.- Binding file according to one of the preceding claims, characterised in that the flyleaf (2) is implemented in thin paper.

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Fig. 1

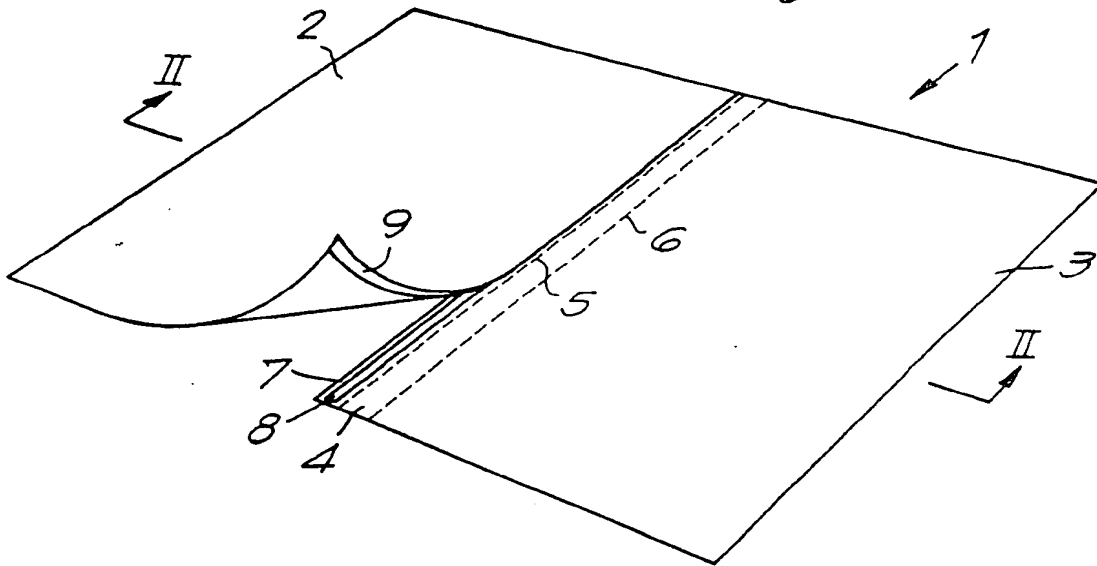


Fig. 2

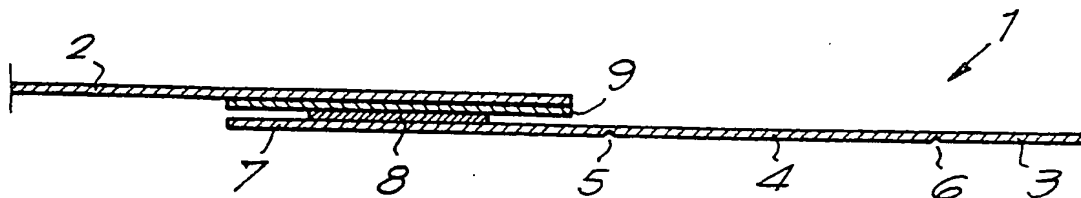
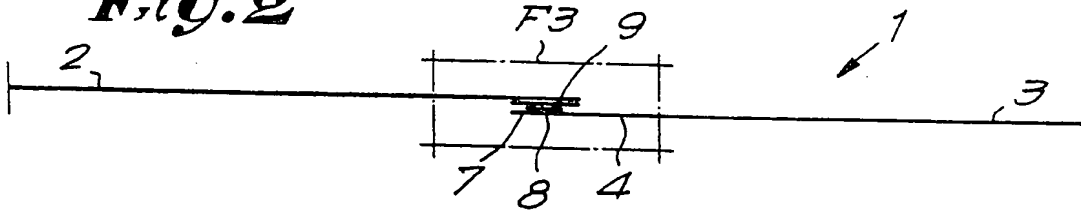


Fig. 3

Fig. 4

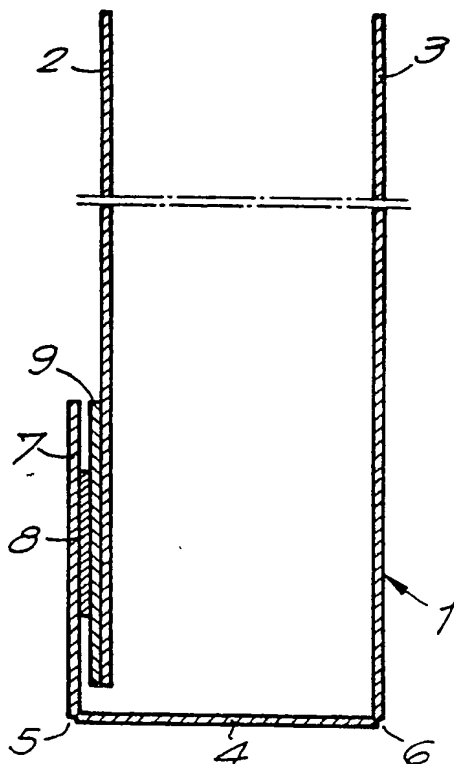


Fig. 5

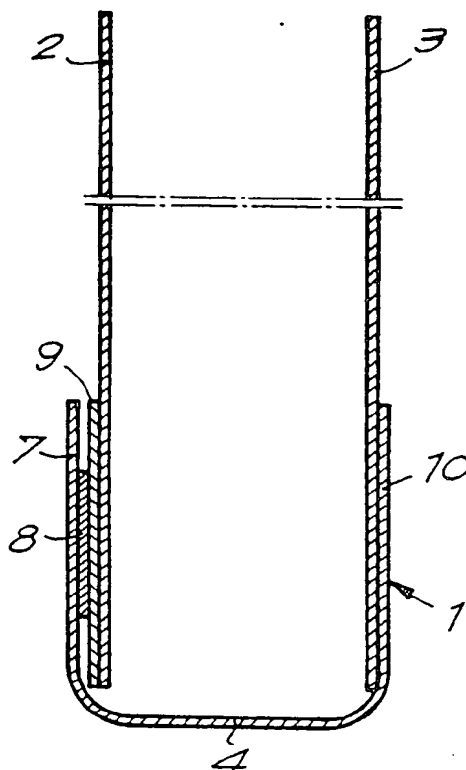


Fig. 9

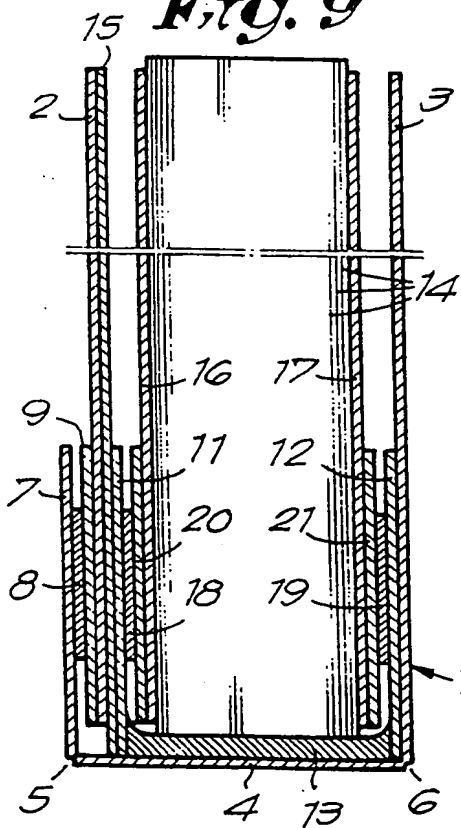


Fig. 10

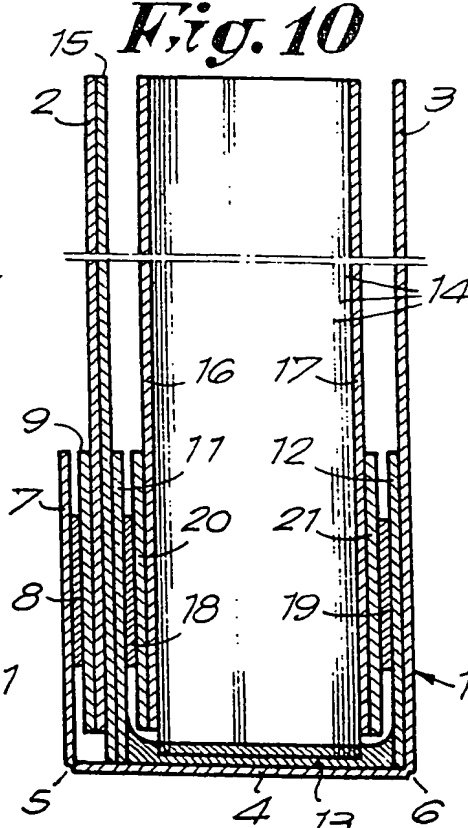
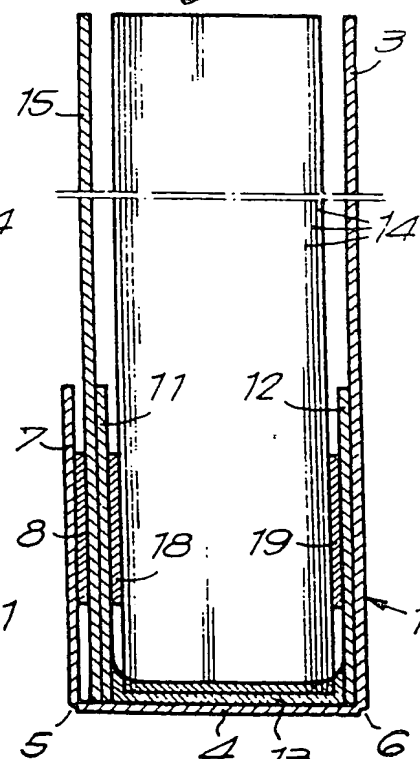


Fig. 11



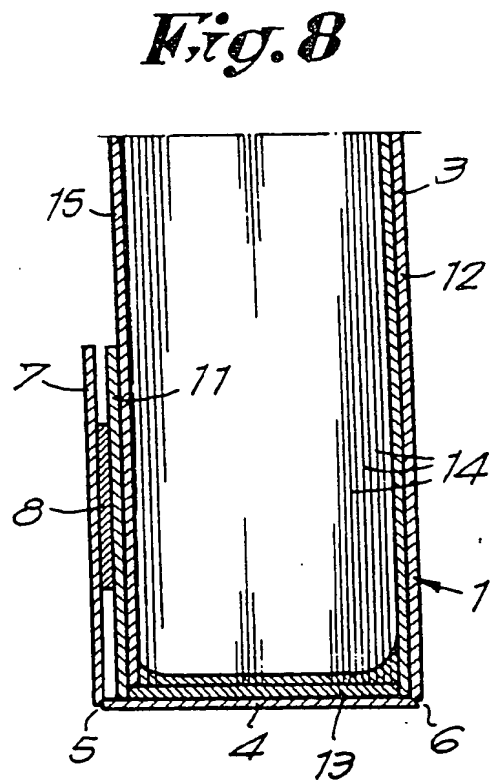
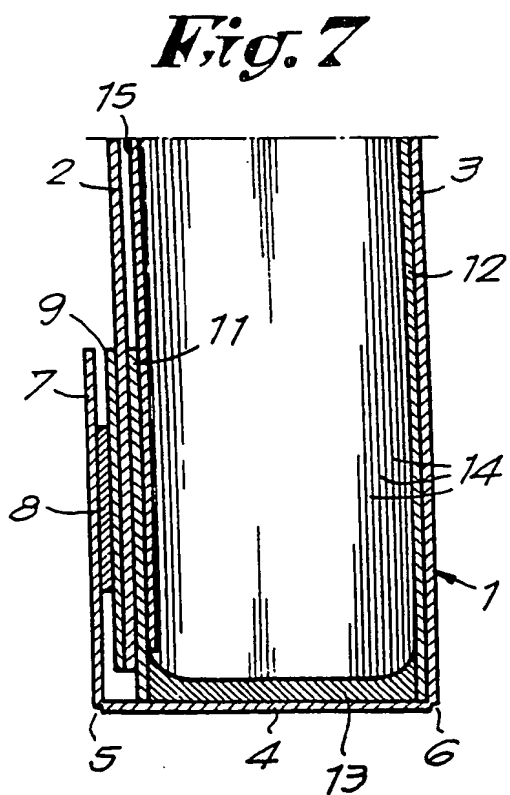
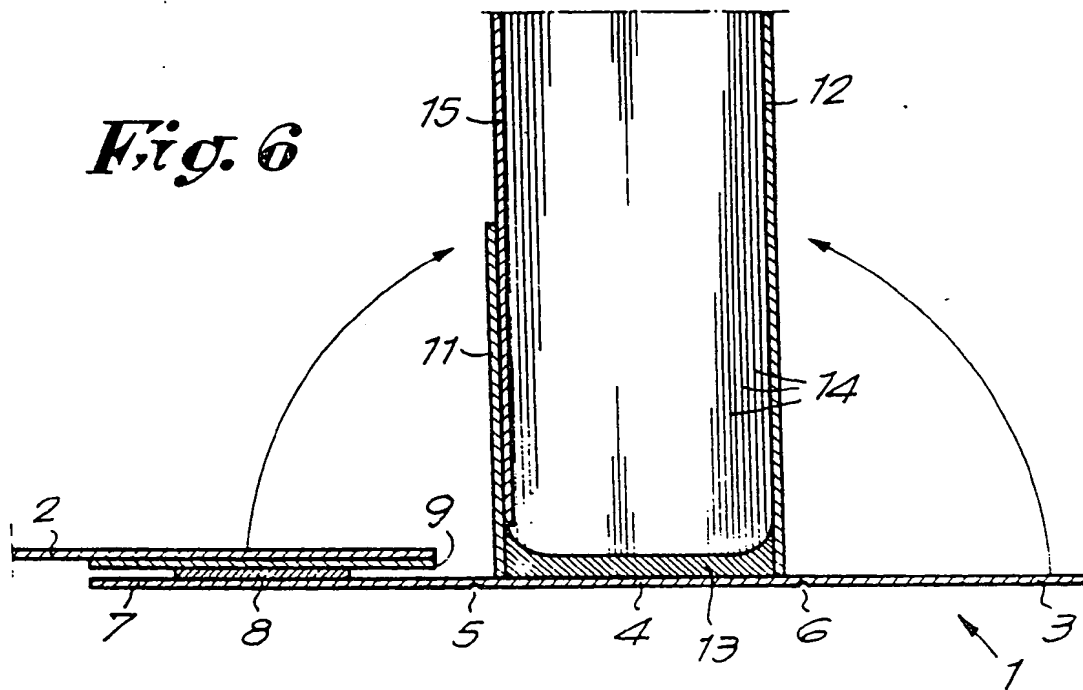


Fig. 12

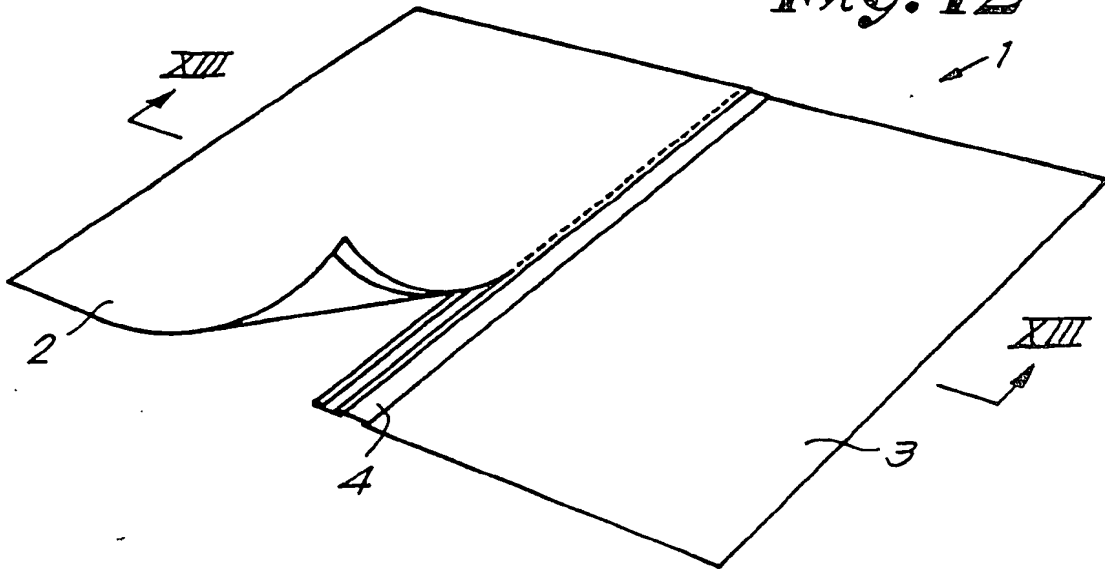


Fig. 13

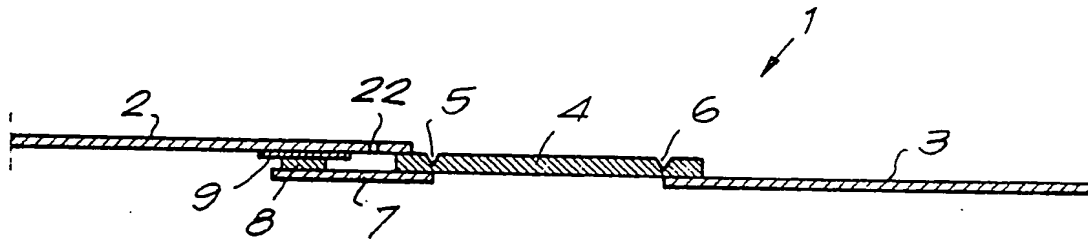
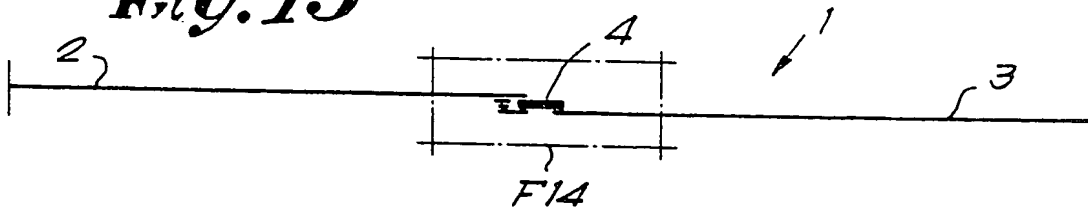


Fig. 14

Fig. 19

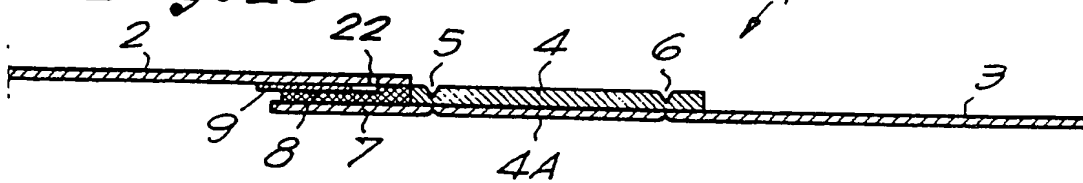


Fig. 20

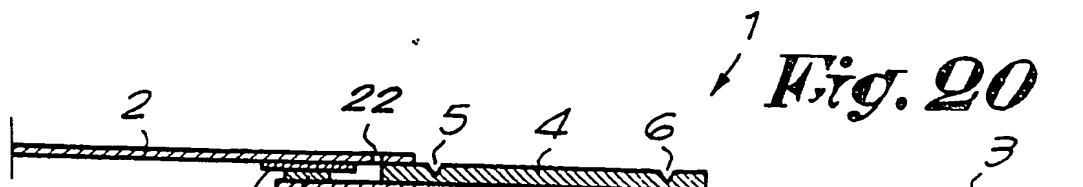


Fig. 15

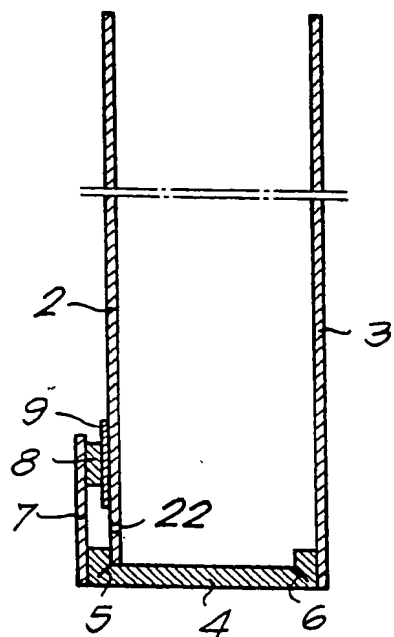


Fig. 16

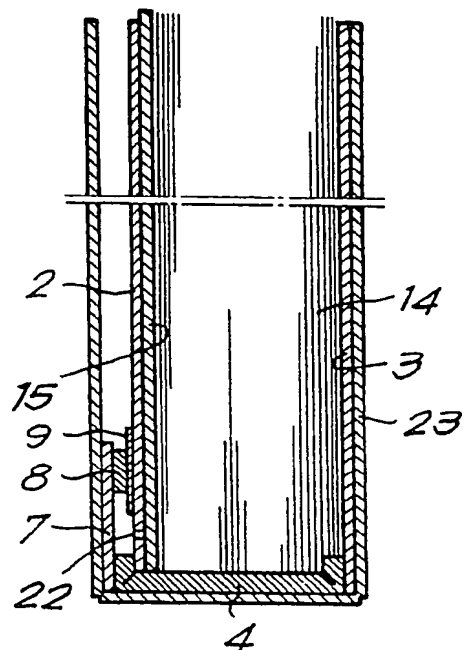


Fig. 17

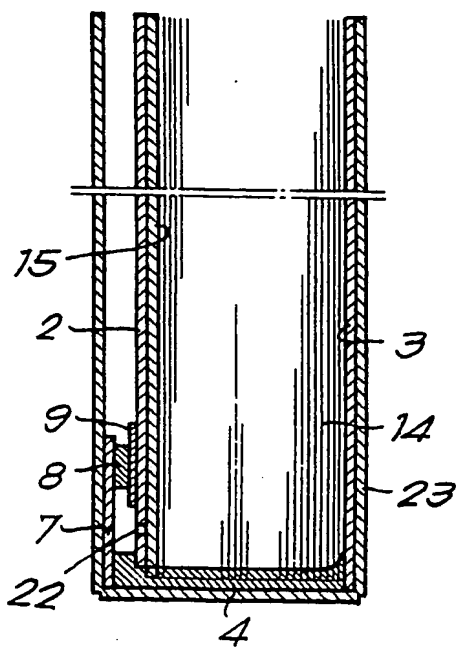
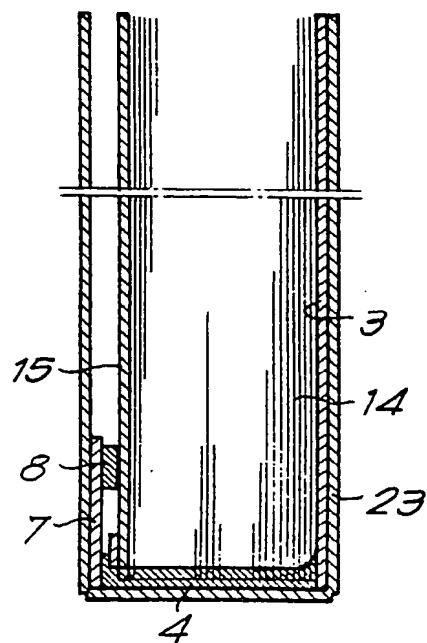


Fig. 18





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 87 0098

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	FR-A-2276944 (GENERAL BINDING CORPORATION) * page 5, lines 11 - 34; claims 1-7; figures 1-5 *	1, 3	B42D3/00
Y		4, 12	
A		6	
X	EP-A-0298709 (DUCORDAY) * the whole document *	1, 3, 11, 13	
A		6	
Y	US-A-3987601 (WATSON) * abstract; claim 1; figures 1-3 * * column 2, lines 46 - 64 *	4	B42D
A		2	
Y	DE-A-2904456 (LOLLI) * page 4, lines 16 - 25; claims 1-6; figures 1-8 *	12	
A	BE-A-1000926 (UNIBIND LTD) * page 5, line 10 - page 9, line 7; figures 1-9 *	1, 3	
P,A	EP-A-0363345 (LOLLI) * column 5, lines 18 - 57; figures 6-8 *	2, 5, 7, 9	
A	EP-A-0140197 (SWEDEX VERTRIERS-GMBH) * abstract; figure *	1, 3-4, 6, 11-13	B42D
P,A	EP-A-0347404 (LOLLI) * column 2, lines 37 - 43; figure 1 *	2, 5	
A	CH-A-590137 (ABILOGAARD LABORATORIES) * figures 9-10, 12, 14 *	2	
A	FR-A-2189215 (GENERAL BINDING CORPORATION) * page 11, line 21 - page 12, line 31; figures 16-18 *	2	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02 OCTOBER 1990	Examiner KOCH J.M.L.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document	